

## ***Stagnicola mighelsi* (Bigmouth Pondsail)**

### **Priority 1 Species of Greatest Conservation Need (SGCN)**

**Class:** *Gastropoda* (Aquatic And Terrestrial Snails)  
**Order:** *Basommatophora* (Air-breathing Freshwater Snails)  
**Family:** *Lymnaeidae* (Pond Snails)

#### **General comments:**

Possible endemic, lack of modern records and possible extirpation of historic occurrences, inadequate survey effort; global rarity (G1G3 species), endemism, and low # of EOs (n=4) warrant SC status. Hotopp surveyed 22 lakes and ponds targeting this species and found it to be present in 3 out of 7 historic locations and 1 new location (bringing the total to 4).

#### **Species Conservation Range Maps for Bigmouth Pondsail:**

Town Map: [Stagnicola mighelsi Towns.pdf](#)

Subwatershed Map: [Stagnicola mighelsi\\_HUC12.pdf](#)

#### **SGCN Priority Ranking - Designation Criteria:**

**Risk of Extirpation: NA**

**State Special Concern or NMFS Species of Concern:**

*Stagnicola mighelsi* is listed as a species of Special Concern in Maine.

**Recent Significant Declines: NA**

**Regional Endemic:**

*Stagnicola mighelsi's* global geographic range is at least 90% contained within the area defined by USFWS Region 5, the Canadian Maritime Provinces, and southeastern Quebec (south of the St. Lawrence River).

Notes: Possible endemic, lack of modern records and possible extirpation of historic occurrences, inadequate survey effort; global rarity (G1G3 species), endemism, and low # of EOs (n=3) warrant SC status. Hotopp surveyed 18 lakes and ponds targeting this specie

**High Regional Conservation Priority:**

**NatureServe:**

Global Rank: G2

**High Climate Change Vulnerability: NA**

**Understudied rare taxa: NA**

**Historical: NA**

**Culturally Significant: NA**

**Professional Discretion:**

Current criteria ranked *Stagnicola mighelsi* as SGCN priority 2, however, species should qualify as SGCN priority 1 based on professional discretion.

Justification:

Documented to have been lost from 4 historic sites and considerable survey efforts have only resulted in the discovery of this snail at one additional site bringing the present total to 4 sites.

[Freshwater Snails of the Fish River Lakes 2011 Final Report v4.pdf](#)

#### **Habitats Assigned to Bigmouth Pondsail:**

Formation Name	Freshwater Aquatic
Macrogroup Name	Lakes and Ponds
Habitat System Name:	Oligotrophic <b>**Primary Habitat**</b> Notes: Primary and only known habitat. Sandy lake bottoms and lakeshore beaches are important habitatat features within this system.

#### **Stressors Assigned to Bigmouth Pondsail:**

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Stressor Priority Level based on Severity and Actionability		Moderate Severity	High Severity
	Highly Actionable	Medium-High	High
	Moderately Actionable	Medium	Medium-High
	Actionable with Difficulty	Low	Low

#### IUCN Level 1 Threat      Natural Systems Modifications

**IUCN Level 2 Threat:** Dams and Water Management-Use

**Severity:** Severe

**Actionability:** Moderately actionable

**Notes:** Alteration of water levels in lakes where this snail occurs may have lead to past extirpations

#### IUCN Level 1 Threat      Other Options

**IUCN Level 2 Threat:** Lack of knowledge

**Severity:** Moderate Severity

**Actionability:** Highly actionable

**Notes:** Lack of comprehensive survey and monitoring effort to understand population status & trends and ID additional occurrences

#### IUCN Level 1 Threat      Pollution

**IUCN Level 2 Threat:** Domestic and Urban Waste Water

**Severity:** Moderate Severity

**Actionability:** Highly actionable

**Notes:** Water quality impacts from camps and other development may negatively affect populations which occur predominantly at lakes with low camp densities

#### IUCN Level 1 Threat      Invasive and Other Problematic Species, Genes and Diseases

**IUCN Level 2 Threat:** Invasive Non-native-Alien Species-Diseases

**Severity:** Moderate Severity

**Actionability:** Moderately actionable

**Notes:** Introduction of non-native snails or aquatic vegetation may have harmful effects but not well understood at present

#### IUCN Level 1 Threat      Pollution

**IUCN Level 2 Threat:** Agricultural and Forestry Effluents

**Severity:** Moderate Severity

**Actionability:** Moderately actionable

**Notes:** Requires clean oligotrophic waters and agricultural and forestry runoff may be harmful

### Species Level Conservation Actions Assigned to Bigmouth Pondsail:

*\*Only species specific conservation actions that address high (red) or medium-high (orange) priority stressors are summarized here.*

<b>Conservation Action</b>	<b>Category:</b> Research	<b>Biological Priority:</b> high	<b>Type:</b> on-going
Develop an improved understanding of habitat and movement ecology to help develop Best Management Practices and other targeted species conservation actions			

#### Stressor(s) Addressed By This Conservation Action

Lack of knowledge

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<b>Conservation Action</b>	<b>Category:</b> Research	<b>Biological Priority:</b> high	<b>Type:</b> new
Examine effects water quality changes from residential and agricultural pollutant and nutrient runoff on bigmouth pondsail populations			

**Stressor(s) Addressed By This Conservation Action**

Dams and Water Management-Use

**Guild Level Conservation Actions:**

This Species is currently not attributed to a guild.

**Broad Taxonomic Group Conservation Actions:**

Additional relevant conservation actions for this species are assigned within broader taxonomic groups in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-1.

**Habitat Based Conservation Actions:**

Additional conservation actions that may benefit habitat(s) associated with this species can be found in Maine's 2015 Wildlife Action Plan: Element 4, Table 4-15. Click on the Habitat Grouping of interest to launch a habitat based report summarizing relevant conservation actions and associated SGCN.

*The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.*